

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on May 6, 2003, and the references cited therewith.

Claims 1, 5, 11, 14 and 19 are amended. Claims 21-23 are added; as a result, claims 1-12, 14-19 and 21-23 are now pending in this application.

Information Disclosure Statement

Applicant respectfully requests that a copy of the 1449 Form, listing all references that were submitted with the Information Disclosure Statement filed on April 12, 2001, marked as being considered and initialed by the Examiner, be returned with the next official communication.

§103 Rejection of the Claims

Claims 1-2, 4-6, 8-9, 11-12, 14-17, 19 were rejected under 35 USC § 103(a) as being unpatentable over Zuraski et al. (U.S. Patent No. 5,589,805). This rejection is respectfully traversed on the basis that Zuraski et al. does not show, teach or suggest each and every element of the invention as claimed.

Zuraski et al. essentially toggles between two states “during the predetermined control period so as to result in the desired output state of the output control quantity.” Col. 1, lines 52-55. Each of the independent claims of the present application describe an additional timer to generate K associated states, wherein K is greater than 2, and associates a modulator output value with each one of said K states. Thus, multiple additional states are provided. Zuraski et al. only provide one additional state, and then toggles between the two states during a predetermined control period. It clearly lacks multiple additional states as claimed, and therefore lacks the ability to obtain significantly higher resolution that the presently claimed structure provides.

Further, with respect to the element lacking in Zuraski et al., as identified in the Office Action, there is no need in Zuraski et al. to establish a pulse width modulation update interval of $K \cdot Pt$, as the interval is predetermined, and only two states are toggled between. Thus, it would not have been obvious based on Zuraski et al. to calculate a modulation update interval in the

manner claimed. As this element is clearly missing, and Zuraski et al. only describes two different states, the rejection should be withdrawn.

Since all the elements of the claim are not found in the reference, Applicant assumes that the Examiner is taking official notice of the missing elements. Applicant respectfully objects to the taking of official notice with a single reference obviousness rejection and, pursuant to M.P.E.P. § 2144.03, Applicant respectfully traverses the assertion of Official Notice and requests that the Examiner cite references in support of this position.

Claims 3, 7, 10, 18 were rejected under 35 USC § 103(a) as being unpatentable over Zuraski et al. as aforementioned in claims 1, 5, 14 in view of Shibuya et al. (U.S. Patent No. 6,191,868). Each of these claims depends from an independent claims, and since Shibuya et al is not cited as providing elements of such independent claims lacking in Zuraski et al., these claims should also be allowable.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743


Respectfully submitted,

ROGER LEWIS

By his Representatives,

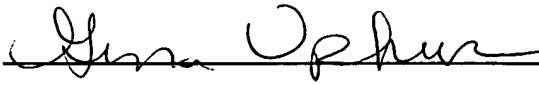
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Date 8-1-2003

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O.Box 1450, Alexandria, VA 22313-1450, on this 1 day of August, 2003.

Gina M. Uphus
Name


Signature

*Approved by examiner.
O.K. to enter.
L.S. 08.15.03*